

## ABSTRACT

Various embodiments of the present invention are directed to lipid-pharmaceutical compositions and related methods for producing a lipid-drug complex under conditions near the neutral pH range. Optimal pH range is provided for the efficient incorporation of various lipid-drug complexes. A lipid-drug complex, such as a liposome, readily encapsulates drugs having low aqueous solubility within a neutral pH range. In some embodiments, the lipid-drug complex comprises a lipid bilayer and a lipid-soluble drug having a range of molar ratio values of lipid-to-drug from about 3:1 to about 100:1 or higher for relatively toxic drugs. Lipid-drug complexes can also be formed within a range of molar ratios from about 3:1 to about 10:1, and a range of molar ratios from about 5:1 to about 7:1. In various embodiments, biomolecules, such as nucleic acids and proteins, that can have pharmacological activities may also be incorporated within lipid vesicles. The methods for targeting lymphoid tissue involve subcutaneous administration of lipid-drug complexes and lipid-biomolecule complexes, and not by systemic administration.